

EDTECH 2024:

SOFTWARE TRENDS FOR TEACHERS, STUDENTS AND HEADMASTERS



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As [Bett Show](#), one of the most interesting Edtech events in London covering [all manner of innovations](#) and progressions, concludes, we look at the growing impact immersive and emerging technology is having on the education sector in the UK.

An expert in creating educational software solutions, Magora has been closely monitoring the trajectory and impact of these technologies within the sector. The prospect of entering a new realm of learning is truly exhilarating.

The landscape of education in the UK is rapidly evolving, with e-learning leading the charge. Innovations such as Virtual Reality (VR), gamification, Machine Learning (ML) and Artificial Intelligence (AI) are reshaping how knowledge is acquired and disseminated, offering personalised content delivery and engagement strategies that cater to individual learner needs and preferences.

The widespread adoption of microlearning, mobile learning, blended learning, bite-sized content, personalised and adaptive learning are among the prominent trends driving innovation in the sector, underscoring a shift towards more flexible, interactive, and tailored learning experiences that accommodate diverse learning styles.

The Times argues that [technology could be the answer](#) to many challenges faced by the UK's education sector today: boosting learning across pertinent skillsets – 'a survey [by PwC](#) found that 75 per cent of companies had had to give recruits additional training in basic skills including literacy and numeracy' – and balancing the curriculum, while Education Support highlights the discord among exhausted teaching staff – '[36% of school teachers reported experiencing burn-out](#) (9% increase on 2022)' – which could be much helped by utilising emerging – and already available – technologies.

Let's take a closer look at the technologies shaping our education sector and what we might expect to see across 2024 and beyond.



The UK e-learning market

The UK e-learning market – the island country's '[11th fastest growing sector](#)' – is experiencing robust growth: we notice an escalating demand for flexible learning solutions made possible by advancements in technology, such as VR, gamification, and AI, which have revolutionised learning experiences by personalising content delivery and engagement.

Valued at approximately USD 18.5 billion in 2023, with projections indicating a steady climb to USD 30 billion by 2026 ([representing a compound annual growth rate \(CAGR\) of 15.27%](#)) the UK e-learning market's key players include Learning & Development (L&D) companies, universities, technology providers, and content creators.

There are several noteworthy trends shaping the trajectory of the UK e-learning market, including the widespread adoption of microlearning, mobile learning, blended learning, personalised learning, adaptive learning, gamification, and AI-powered solutions.

Additionally, there is a growing emphasis on delivering bite-sized content to accommodate shorter attention spans and busy schedules, alongside a shift towards personalised learning journeys tailored to individual needs and preferences. Furthermore, the integration of blended learning approaches, combining online and offline components, is expected to gain momentum, offering learners a more immersive and comprehensive educational experience.

That being said, the burgeoning e-learning market also faces significant challenges. High initial investment costs – and associated ROI questions for stakeholders – associated with implementing e-learning platforms and content creation pose barriers to entry for some organisations, while ensuring robust technical infrastructure to support reliable internet access and device compatibility remains a critical concern.

What factors are influencing growth?

The incredible growth of the e-learning market can be attributed broadly to two factors: individual learner motivations and broader societal influences.

Individual learners demand flexibility and convenience, increasingly seek the autonomy to acquire knowledge at their own pace and according to their own schedules, a convenience readily provided by e-learning platforms.

Accessibility and affordability of e-learning compared to traditional classroom settings are also a draw, expanding educational opportunities for learners, often at a reduced cost, with personalised content and tailored learning pathways significantly enhancing the overall learning experience, while remote proctoring techniques, i.e. taking tests off-site as they are monitored online, strips back geographical confines further still.

On a macro level, we see organisational and societal influences contribute to the market's growth. Technological advancements, such as VR, gamification, and AI, provide exciting learning experiences according to preference that engage the user, while government initiatives supporting digital learning infrastructure and skills development have provided further impetus to market expansion complementing a growing younger generation comfortable with technology.

Top Edtech trends in 2024

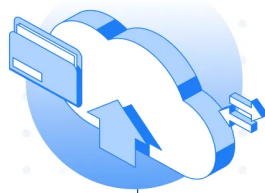
Having undergone a wondrous evolution in the years gone by, transitioning from static exercises to dynamic tools that cater to the diverse needs of contemporary learners, educational software continues to progress with several prominent trends and advancements shaping its trajectory.



AI-ARTIFICIAL
INTELLIGENCE



VR, AR, AND
GAMIFICATION:



CLOUD
AND DATA:



NATURAL LANGUAGE
PROCESSING (NLP):



MACHINE LEARNING
(ML) AND LLMs:

AI-powered platforms

The versatility of AI-powered platforms has proven to be incredibly popular with educators and learners alike, capable of personalising learning pathways, delivering targeted feedback, and adapting to individual learner needs.

VR, AR, and gamification

Immersive experiences facilitated by VR and AR technologies offer engaging simulations and virtual field trips that enrich learning environments, while the integration of gamification techniques enhance motivation and learning outcomes.

Microlearning

[Microlearning](#) is an educational strategy that focuses on learning new information in small units. This process delivers digestible content suited to modern attention spans and busy schedules – perfect for learners on the move.

Natural Language Processing (NLP)

NLP is fast becoming a must-have for Edtech companies that utilise the technology to develop automated chatbots, analytical tools, and intelligent teaching systems.

‘29% of education-related [organisations have already embedded NLP](#) into their business operations as of 2023, and 45% plan to do so in the near future’ – the technology ‘is reshaping the boundaries of what is possible in education.’

Machine Learning (ML) and LLMs

Predictions suggest that ML and LLMs will [gain traction](#) across the education sector in 2024, facilitating ‘the creation of hyper-personalised digital spaces’ and helping to ‘create learner-centric virtual and real-life classrooms with flexible instruction techniques to address the unique learning needs of every individual.’

Cloud and data

Underpinning these trends are cloud-based solutions that further democratise access to educational resources – universally accessible learning materials promotes continuous learning, fosters collaboration, and provides flexibility – and big data analytics that enable the comprehensive tracking of learner progress to provide actionable insights.

Furthermore, the metaverse continues to open new frontiers in virtual learning environments, promising ongoing progression across the immersive education space.

E-learning in the workplace

Outside of the classroom, educational software is playing an increasingly pivotal role in upskilling and reskilling employees, streamlining onboarding processes, and ensuring compliance with regulations and policies in the workplace.

Facilitating knowledge sharing and collaboration across teams, contributing to organisational agility and performance, we see businesses placing their trust in digital learning initiatives to stay competitive, with e-learning emerging as a readily available option for acquiring new skills and knowledge.

Social problems: how can Edtech tools help?

Educators encounter a myriad of social challenges that impact their teaching effectiveness and their students' overall well-being, from addressing social-emotional learning (SEL) hurdles to tackling equity

gaps.

When integrated with human interaction and monitoring, a hybrid learning solution, there are several ways that Edtech platforms provide solutions to these issues:

Mental health

[Social-emotional learning issues](#), including anxiety, depression, and bullying, can present barriers to effective education. Edtech's suite of tools, such as mindfulness exercises, emotional expression platforms, and conflict resolution resources, empower educators to nurture SEL skills and create a supportive learning environment.

Accessibility

Equity and access disparities among students from disadvantaged backgrounds remain a persistent concern. Edtech's open educational resources (OERs), adaptive learning platforms, and personalised software can mitigate these gaps, ensuring all students have equal access to high-quality educational materials and technology.

Engaging students

Fostering student engagement and motivation is imperative for academic success. While traditional teaching methods may falter in maintaining student interest, Edtech's gamification, interactive simulations, and VR experiences can enhance engagement and spark curiosity by injecting dynamism into learning.

Resource relief

The challenge of large class sizes and heavy teacher workloads can often impede personalised attention and student support. Personalised AI tutors, automated grading tools, and collaborative learning platforms offer relief to educators by streamlining administrative tasks and providing personalised support for students.

Personal development for educators

Due to lack of resource, educators can face a shortage of professional development opportunities that help them stay abreast of new technologies and teaching methodologies. Edtech's online courses, webinars, and virtual communities empower educators with ongoing training and support.

Stamping out misinformation

In the digital age, combating misinformation while fostering media literacy are critical. Online media literacy resources and interactive games equip students with the skills to critically evaluate information sources and discern fact from fiction effectively.

Communication and collaboration

Effective communication and collaboration between educators and parents are essential for student success. Education management systems with communication features and online portals promote regular interaction, ensuring alignment between home and school.

The rise of AI in education

The number of [teachers using GenAI models](#), such as ChatGPT, jumped from 17% in April 2023 to a third by September 2023, 'suggesting a doubling of AI use by teachers in just five months.'

Why so popular?

Today's technology offers an incredible spectrum of tools that complement the traditional education sector – educators and learners are plunged into an efficient and immersive world that can open doors, embrace diversity and inclusivity, and challenge the status quo.

In addition to AI's plethora of personalised learning opportunities, students can take advantage of intelligent tutoring systems that offer them personalised feedback, recommend courses to suit their learning interests, give guidance, and provide tailored practice sessions.

Thanks to customised gaming and challenges that foster motivation, engagement is concentrated and sustained, while AI-driven storytelling techniques render learning more enjoyable and memorable by delivering personalised and interactive narratives.

Looking to assessment and feedback, AI streamlines processes, provides auto-subjective evaluations, and offers real-time feedback enabling self-correction and continuous improvement, with automated grading systems simultaneously assisting educators in evaluating essays, code, and other assessments swiftly, [saving teachers \(much needed\) time](#) and allowing them to allocate more resource to providing personalised feedback to students. These generative AI assessments could well be the future of the written word in education.

AI Edtech apps

With 'more than [half of the teachers](#) who responded to Forbes Advisor's survey [saying] they believe AI has had a positive effect on the teaching and learning process' and 'less than 1 in 5 [citing] a negative effect' it seems this technology is a hit with students and educators alike.

Last year Prime Minister Rishi Sunak [showed his support for AI](#) in the classroom too, announcing 'that the government would invest up to £2mn in Oak National Academy to create new teaching tools using AI, "marking the first step towards providing every teacher [in England] with a personalised AI lesson-planning assistant"'.

The Times notes that '[AI could transform every aspect of education](#), offering personalised learning, automated setting and marking of work' – it's exciting to think what might be on the horizon.

Let's look at some of the innovative AI apps shaping the future of education.

Personalised Learning

[Duolingo](#)

Leveraging AI to personalise lessons based on the user's progress, strengths, and weaknesses, this language learning app uses speech recognition to assess pronunciation and provides tailored exercises to engage and motivate.

[Khan Academy Kids](#)

Built for young learners, this AI app adapts activities and challenges to suit the child's individual pace and learning level, ensuring a fun and effective learning experience.

Founder and CEO of Khan Academy, Sal Khan, believes that AI 'could spark the greatest positive transformation education has ever seen' citing several opportunities 'he sees for students and educators to collaborate' with the tools available, 'including the potential of a personal AI tutor for every student and an AI teaching assistant for every teacher.'

[Knewton Alta](#)

An adaptive learning platform, Knewton Alta creates personalised learning paths for students across math, science, and history. Analysing learning data to identify knowledge gaps and recommending activities to fill them, the app fosters a deeper understanding on each topic.

Adaptive Assessment

[NWEA MAP Growth](#)

This assessment system adjusts question difficulty in real-time based on student responses, providing a more precise picture of their understanding and pinpointing areas for improvement.

[Quizzizz](#)

An app centred on personalised quizzes according to student performance to make them engaging and informative, Quizzizz provides instant feedback and highlights areas where students may need additional support.

[Carnegie Learning](#)

This comprehensive learning platform incorporates AI-powered assessments that adapt to student proficiency, offering personalised challenges and feedback to guide their learning journey.

Tutoring Systems

[Betty's Brain](#)

On this platform, students learn by teaching, 'constructing a causal model of the systems or processes that make up [a particular] science topic (e.g. ecosystems, climate change, or thermoregulation).'

[Carnegie Learning COMPANION](#)

This virtual tutor guides students through math and science learning, offering personalised explanations, practice problems, and feedback to enhance understanding and address individual needs.

[ASSISTments](#)

Assisting with problem-solving skills in math, science, and writing, ASSISTments provides personalised feedback, hints, and suggestions based on student responses, promoting independent learning and critical thinking.

Immersive learning: AR and VR

As aforementioned, AR and VR (housed under the Extended Reality (XR) umbrella term) are making strides in the education sector, emerging as a transformative force for good.



While challenges such as affordability continue to be a concern, these technologies offer unparalleled opportunities in education by providing access to personalised learning experiences that would otherwise be inaccessible.

AR's impact is considerable. Superimposing digital information onto the real world, it allows learners to explore complex concepts visually and interactively, from visualising the human body in 3D to fostering interactive learning experiences.

Enhancing understanding and knowledge retention in unprecedented ways, notable examples include [Merge Cube](#) for holographic learning experiences and [GeoGebra AR](#) for visualising mathematical concepts in three-dimensional space.

In complement, VR transports learners to virtual environments that recreate historical events, ecosystems, or distant planets, captivating their attention and fuelling their curiosity, leading to deeper engagement and motivation.

The technology's hands-on learning experiences enable learners to interact with virtual environments and participate in simulated activities, promoting critical thinking skills, with popular examples including [ClassVR](#) for virtual field trips and [Labster VR](#) for conducting [realistic science experiments](#).

Creating immersive and engaging learning environments

Thanks to the immersive learning experiences facilitated by AR and VR, students have the opportunity to [engage and learn](#) like never before across a spectrum of subjects.

In history, students can step into the past through VR headsets, exploring iconic sites like the ancient Colosseum and witnessing the events that took place there first hand, while AR applications can augment real-world locations with historical figures and events, offering interactive experiences that bring history to life with engaging visuals and narratives.

In the realm of science, VR simulations enable students to dissect virtual specimens and explore the intricacies of animal and plant anatomy in three dimensions without the need for physical specimens, while AR overlays allow students to delve into the human body by projecting detailed anatomical models onto their own bodies, facilitating interactive exploration of organs, systems, and biological processes.

Geography benefits from VR's ability to transport students to [diverse ecosystems](#) and geographical landmarks, offering immersive virtual field trips to locations like the Amazon rainforest or the Great Barrier Reef, while AR enhances learning about the solar system by overlaying planetary and celestial information onto the real sky, enabling students to visualise celestial movements and delve into space exploration.

Languages are enriched through AR and VR simulations that immerse students in virtual conversations with native speakers, providing opportunities to practice language skills in authentic contexts while they explore foreign cities virtually, interacting with virtual characters and landmarks to enhance language fluency.

In mathematics, AR overlays can enable students to visualise geometric concepts in three dimensions, manipulating shapes to understand angles, volumes, and spatial relationships, as VR simulations offer interactive problem-solving scenarios that gamify mathematical concepts, making learning more engaging and accessible.

Art and music benefits from VR's virtual art studios where students can experiment with various techniques and styles fostering creativity and self-expression, while AR apps enhance music history learning by overlaying information about instruments and composers onto museum exhibits, creating interactive and enriching experiences.

The Apple Vision Pro

With the recent launch of the Apple Vision Pro, educators are once again invited to embrace learning opportunities that transcend the status quo.

Presenting '[a profound tool for educators](#)', the Apple Vision Pro invites teachers to 'create a learning environment that is as fluid as it is captivating' and 'structure their lessons in a non-linear format, stepping away from the conventional one-size-fits-all approach to education.'

Thanks to its 'capacity to modify scale, level of interaction, and degree of realism', the Vision Pro 'accommodates a broad range of learning styles and speeds', ensuring 'each student's educational experience is personalised' while helping educators deliver real-time feedback by virtually entering 'a student's project, [engaging] with their creations, and [offering] instant constructive input. This interactive approach renders the learning journey more vibrant and effective, ultimately bridging the gap between knowledge and understanding.'

Bringing subjects to life

To understand better how XR technology is injecting new life into learning, we turn our attention to some of the apps making waves in this sector.

[Time Machine VR](#)

Learners can journey through different historical periods, immersing themselves in significant events, from visiting the ancient Roman Forum to exploring 'the Jurassic era and the creatures that once ruled the prehistoric oceans.'

[Echoes of Egypt AR](#)

An interactive experience that invites the user to explore ancient Egyptian tombs, interact with artifacts, and learn about hieroglyphics.

[MarsXR](#)

Travel to Mars, explore the planet's surface, learn about its geological features, and conduct virtual experiments.

[ImmerseMe VR](#)

Experience immersive stories and scenarios in different languages, learn vocabulary, and practice speaking skills in engaging contexts.

[Euclidean VR](#)

Visualise and manipulate 3D geometric shapes in virtual reality to gain a deeper understanding of angles, volumes, and spatial relationships.

[DragonBox Numbers AR](#)

Solve math problems in an interactive AR world – this 'game helps kids gain an intuitive understanding of numbers – what they are, how they work, and what you can do with them.'

[Tilt Brush VR](#)

Create and sculpt in a virtual 3D studio, experimenting with different artistic tools and techniques in a creative and immersive environment.

Incredibots AR

Design and animate your own robot using AR, learning about basic coding principles and design in an interactive and engaging manner.

Special Education Needs and Disabilities (SEND)

Not only an innovative approach to education processes and learning on a macro level, but XR presents unique opportunities to address the diverse challenges faced by individuals with SEND, fostering accessibility, personalised learning, and engagement



Accessibility and Participation

XR environments can be tailored to accommodate sensory processing challenges by adjusting stimuli such as light and sound. This customisation enhances comfort and accessibility, enabling individuals to engage more effectively in learning activities.

For those with physical limitations, VR simulations provide a breakthrough by offering safe and accessible experiences. These simulations allow individuals to participate in activities that may be

challenging or impossible for them to undertake physically, thus promoting inclusivity and active engagement.

Moreover, XR technologies can assist individuals with social anxiety by offering controlled social interaction experiences. Through VR simulations, individuals can practice communication and social skills in a safe and supportive environment, helping them build confidence and alleviate anxiety.

Personalised Learning and Engagement

XR platforms cater to diverse learning styles, leveraging visual and auditory elements to engage [learners with SEND](#) more effectively. By presenting information in various formats, these technologies promote deeper understanding and enhance knowledge retention among individuals with different learning preferences.

The immersive nature of AR and VR captures attention and boosts motivation, particularly for learners who may struggle with traditional learning methods. The interactive and dynamic nature of these technologies enhances engagement, fostering a positive learning experience for individuals with SEND.

Furthermore, simulations can be adapted to individual learning paces and needs, offering personalised learning experiences. By tailoring content and activities, these technologies accommodate the diverse abilities and requirements of learners with SEND, facilitating their educational progress.

ASD, ADHD, and learning disabilities

For individuals with Autism Spectrum Disorder (ASD), VR therapies provide valuable opportunities to practice social skills, manage emotions, and cope with sensory overload. These therapies offer safe and controlled environments for individuals to develop essential skills and strategies.

Similarly, for individuals with Attention Deficit Hyperactivity Disorder (ADHD), XR simulations offer engaging learning experiences that cater to shorter attention spans and help improve focus. The interactive nature of these simulations enhances learning effectiveness and supports academic progress.

Additionally, AR overlays can provide valuable support for individuals with learning disabilities, offering visual and auditory cues to aid reading comprehension, mathematics problem-solving, and other academic skills. These overlays enhance accessibility and facilitate learning for individuals with diverse learning needs.

Magora and Edtech

Well versed in creating educational applications from scratch, Magora has worked on a spectrum of successful e-learning applications that have helped grow many of their client's businesses, including Core Power Golf, Galaxseeds and Pocket CPE.

From [discovery phase](#) – competitor research, user interviews, product scope, design validation, UX – to software exploration and implementation – Timeline, Training Courses, Symbolab, and more – the company's approach to Edtech is both innovative and thorough.

Read more on [Magora's work with Eurekly](#): building a web platform that enables students to learn online with experienced professionals and connect with other students.

Conclusion

The Edtech sector is experiencing rapid growth and innovation propelled by technologies that are reshaping the way we learn, offering personalised learning experiences that cater to individual needs and preferences.

As we look ahead to 2024 and beyond, the trajectory of the UK e-learning market remains promising, with key trends for Edtech organisations including microlearning and mobile learning continuing to drive innovation. Challenges persist, including initial investment costs and ensuring robust technical infrastructure, but the opportunities for enhancing education and bridging gaps in accessibility and engagement are vast.

Moreover, the rise of AI and XR in education is revolutionising the learning experience, offering personalised tutoring, adaptive assessments, and immersive learning environments. The recent launch of the Apple Vision Pro further underscores the potential of technology to create dynamic and personalised learning environments that cater to diverse learning styles and needs.

In this dynamic landscape, Magora stands as a leading innovator in educational software solutions, leveraging its expertise to create immersive and engaging learning experiences. From personalised learning platforms to adaptive assessments, Magora's commitment to innovation and excellence continues to drive positive transformation in the Edtech sector.